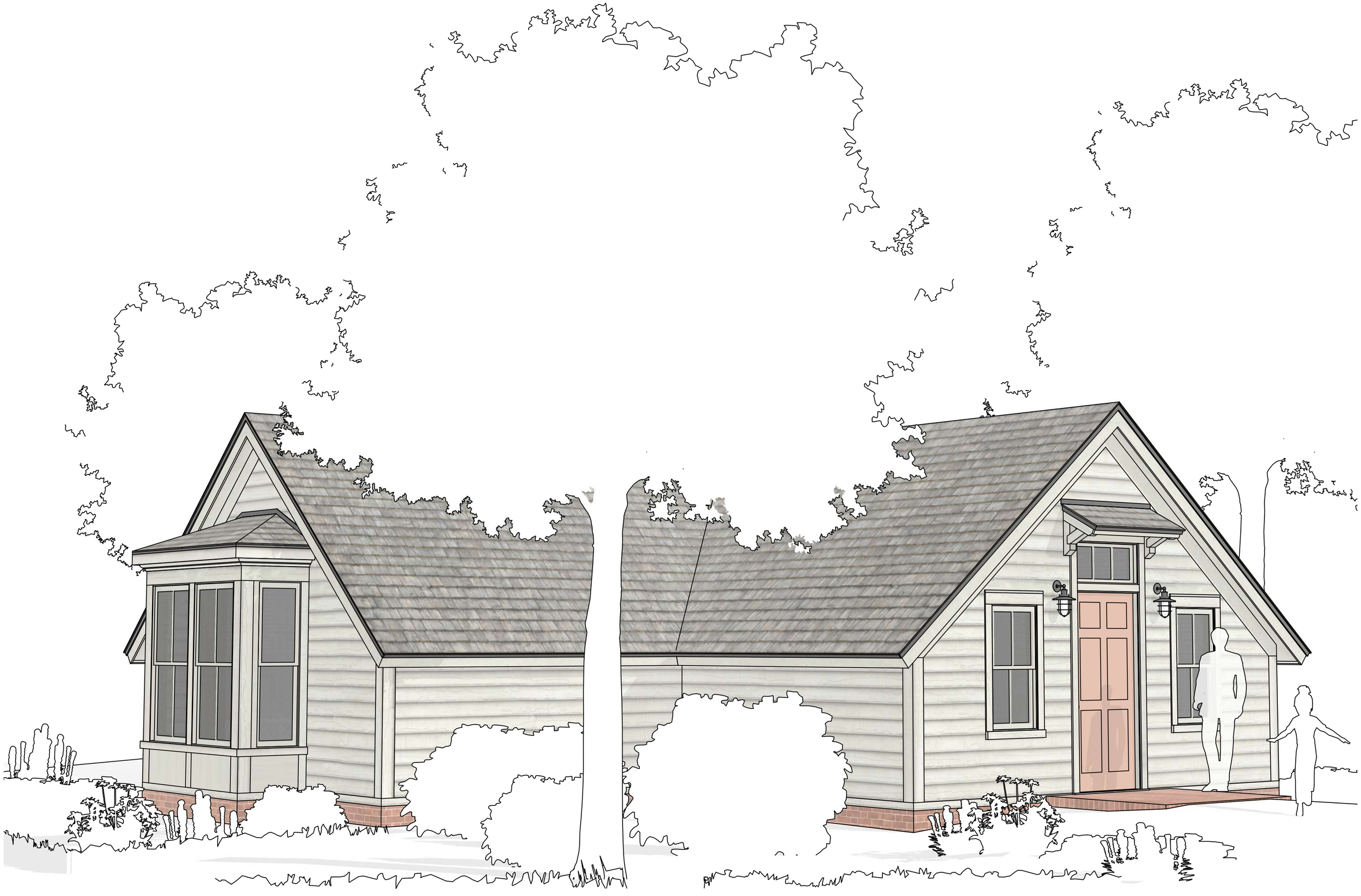


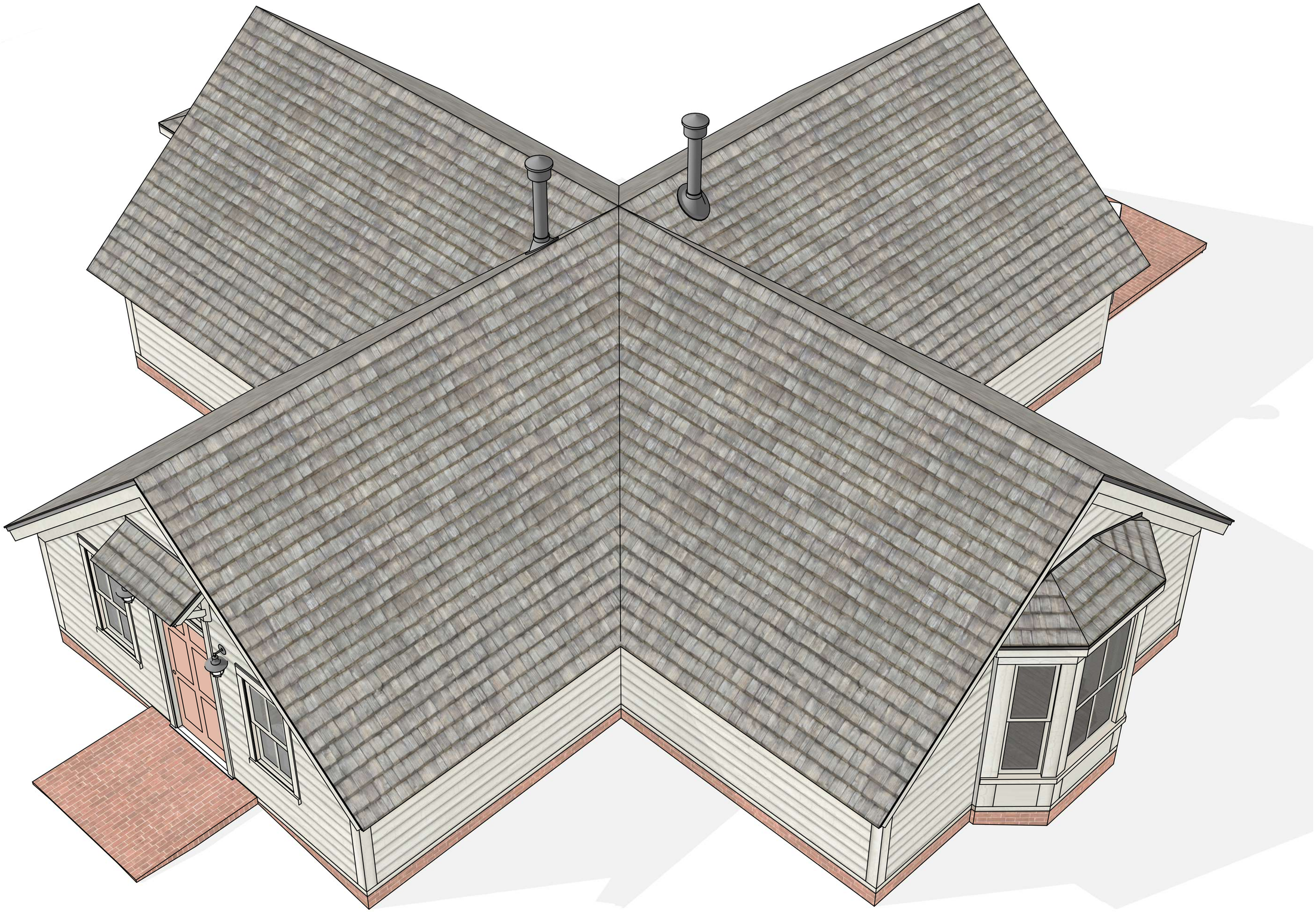
Like an attic that sits directly on the ground, a halfstory house is a short dwelling with a single level, where, at the sides, the roofs slope down below eye level. This idea may be unique– an as-yet unexplored archetype– so this project scopes out the possibilities. Despite the novelty, this design reflects the same practicality as 1.5-story and 2.5-story houses. It also may have unique functional applications.

HALFSTORY HOUSE

CONCEPT OVERVIEW

JAY OSBORNE

Having minimal interior volume, it's easier to heat and cool. With its low roofline, it can hide from neighbors. Its low eave height lets it be placed in the middle of a sunny garden. Its aerodynamic cross-section is great for a windswept landscape. And it's just cozy, like a wooden tent, or a hobbit house without moisture issues. This innovative archetype is tested within this design: The First Halfstory House.



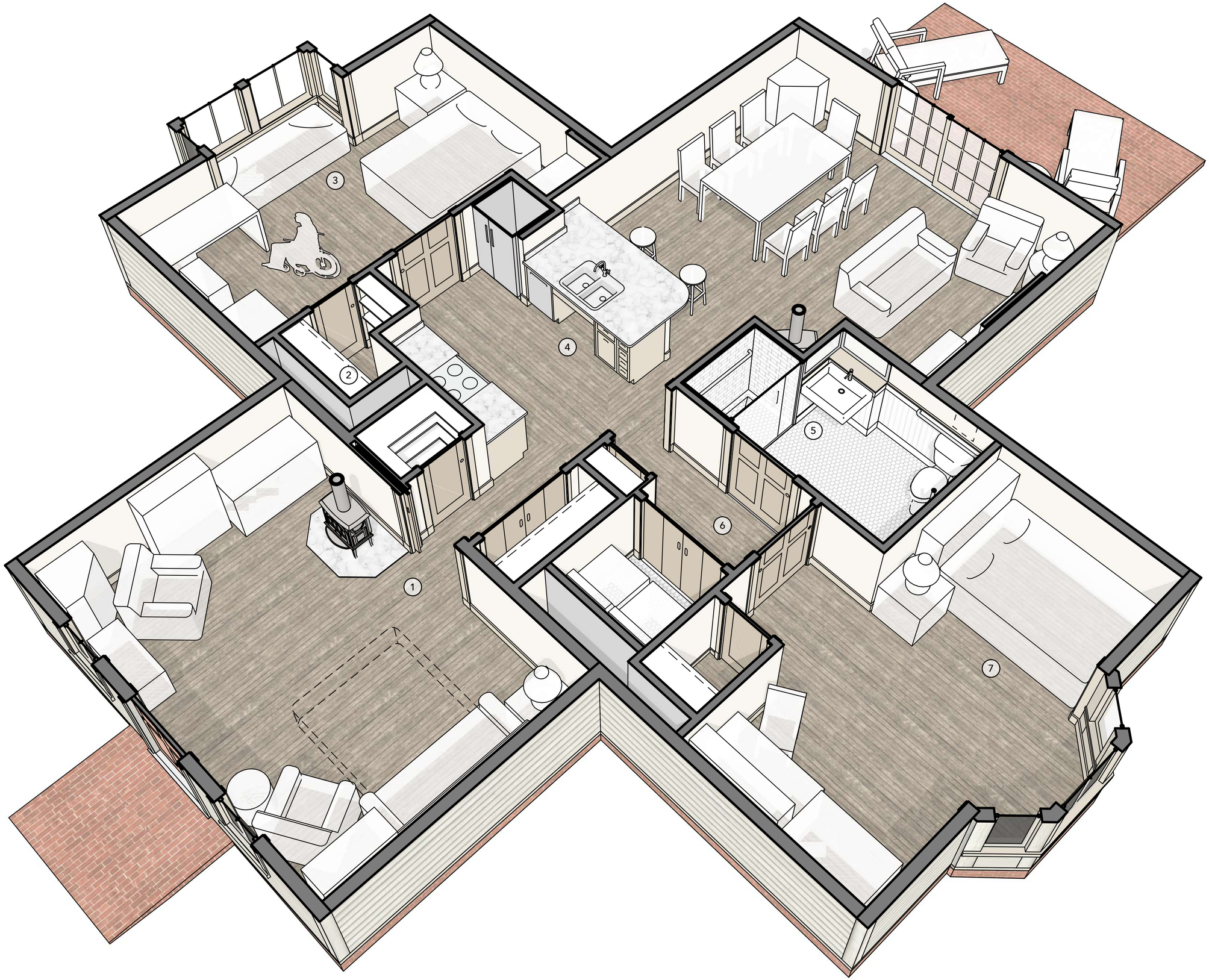
This new archetype could take many forms. It could have dormers, a cupola, a grand cathedral ceiling, or exposed ceiling rafters. It can have bermed walls or a green roof. Yet this first halfstory house keeps it simple, using normal materials and construction techniques. It's also made to be wheelchair-accessible, giving an underserved demographic the opportunity to dwell in a cozy, charming attic.

HALFSTORY HOUSE

DESIGN OVERVIEW

JAY OSBORNE

This design is structured about a plain cross-gabled roof. Each of the four ends demonstrates another type of opening: a door flanked with windows, a large sliding glass door, and two kinds of bay windows. These are aligned with interior doors to carry sunlight and breezes throughout the house. Low interior ceilings dictate the spatial layout. With its low roof profile, the home nestles into the land.



(1) The house is entered at the reception room. With a pocket door between this room and the main living area, it can be closed off. A sofa bed could make it an occassional guest bedroom. **(2)** Closets are placed where the ceilings are lowest. This area also has space for other service functions, like venting the range hood. **(3)** The bay windows are aligned with interior doors to bring in light and air flow.

HALFSTORY HOUSE

FLOOR PLAN

JAY OSBORNE

(4) The kitchen is located centrally, where the ceilings are highest. It has enough space for wheelchair turnarounds. **(5)** The bathroom is also large enough for someone in a wheelchair. **(6)** The circulation is centered near the roof ridge, with extra space for manueverability. **(7)** Furniture must be placed by the low side walls, to prevent the bumping of heads. The bedrooms could have curtained alcoves.

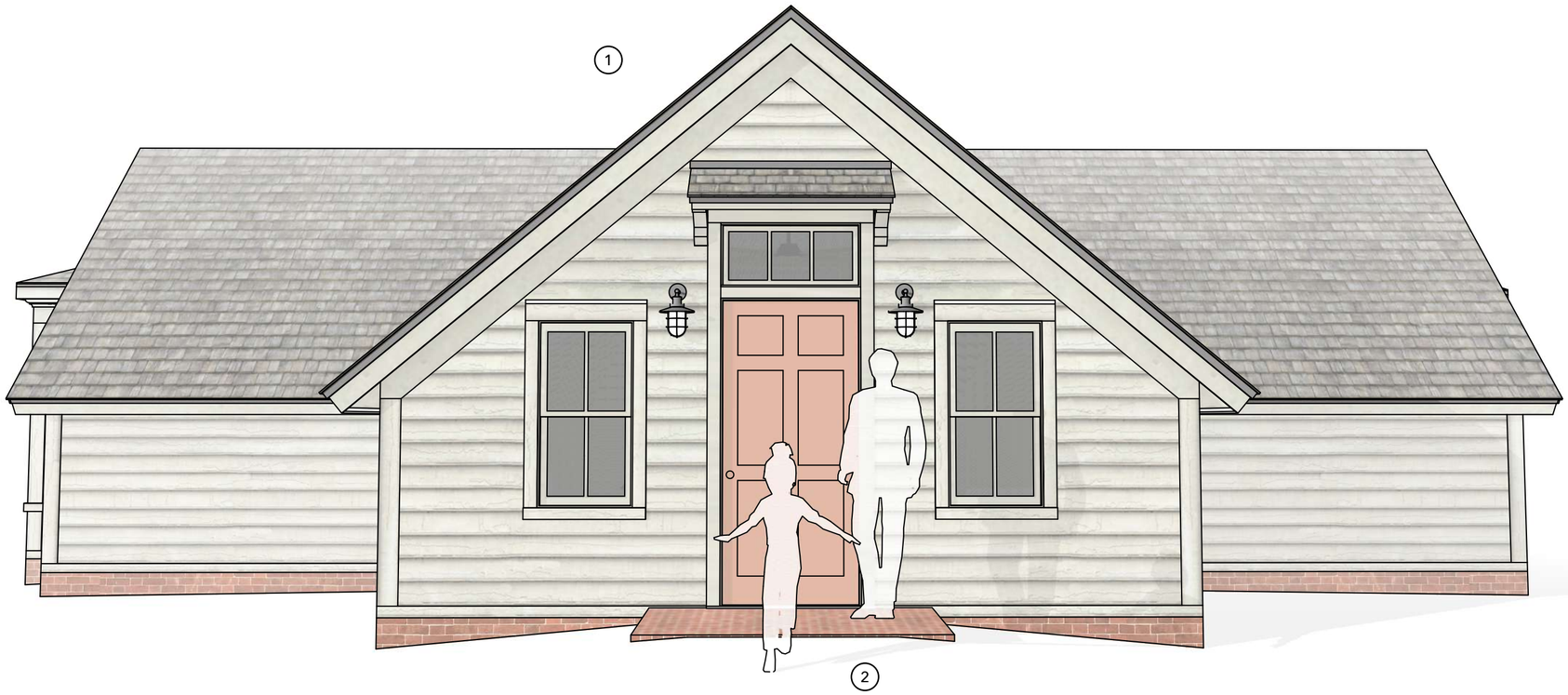
Floor plans aren't ideal for showing small houses. The sense of scale can be lost in a plan view. That's a reason to always depict a furniture layout, even if roughly. This roofless view also gives a better depiction of the low ceilings. Every new perspective is valuable. **(1)** Like an attic design, it's challenging to keep things compact yet give adequate ceiling heights. Furniture goes against the low walls.

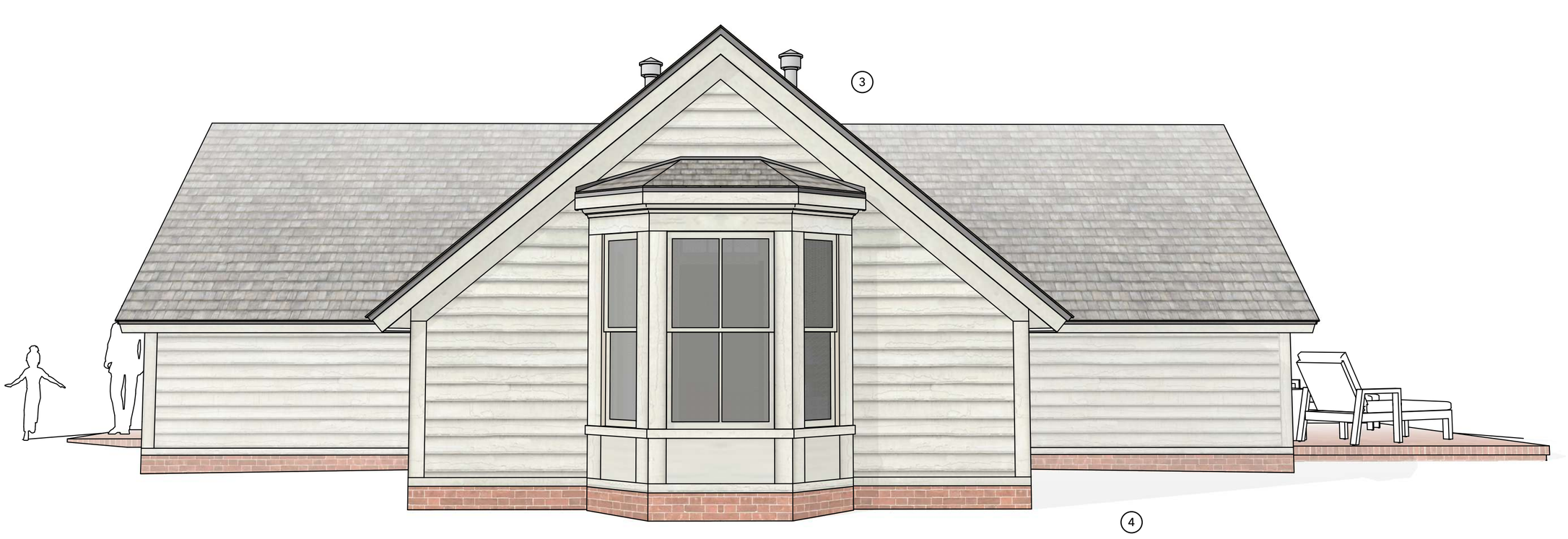
HALFSTORY HOUSE

ROOFLESS VIEW

JAY OSBORNE

(2) The closets have low ceilings, providing space for ventilation functions above. Woodstove flues pass over the closets into a utility chase. **(3)** Exposed 6x8 beams (the size of railroad ties) stiffen the roof structure and assist the ease of construction. **(4)** Closets shouldn't be too deep. Leftover space is given to mechanical functions, like chases for ducts and vents. **(5)** Low bathroom ceilings dictate the spatial layout.





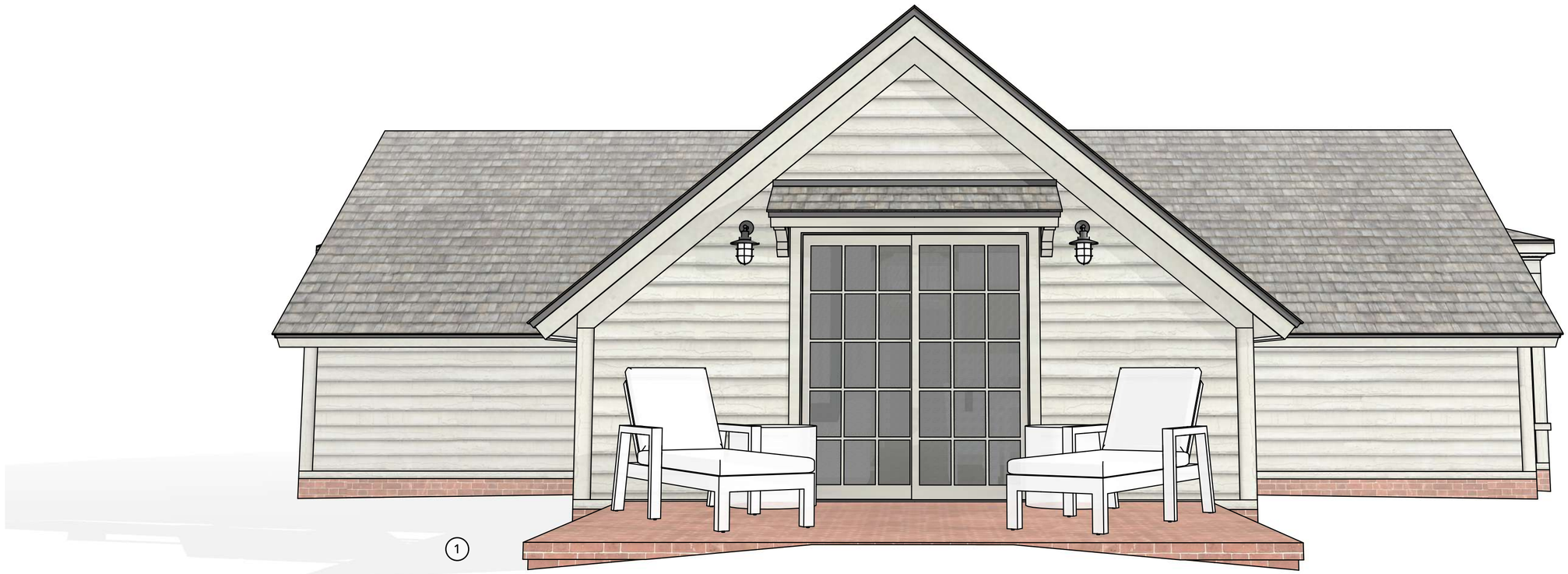
The house's cruciform shape has a different facade on each of the four sides. **(1)** The front of the house has a solid door (for more privacy), and a transom and two more windows to admit daylight. Getting light to the middle of the house is important. That influences the overall size of the home. **(2)** With its low eaves, this archetype doesn't lend itself well to porches, though a small porch is possible.

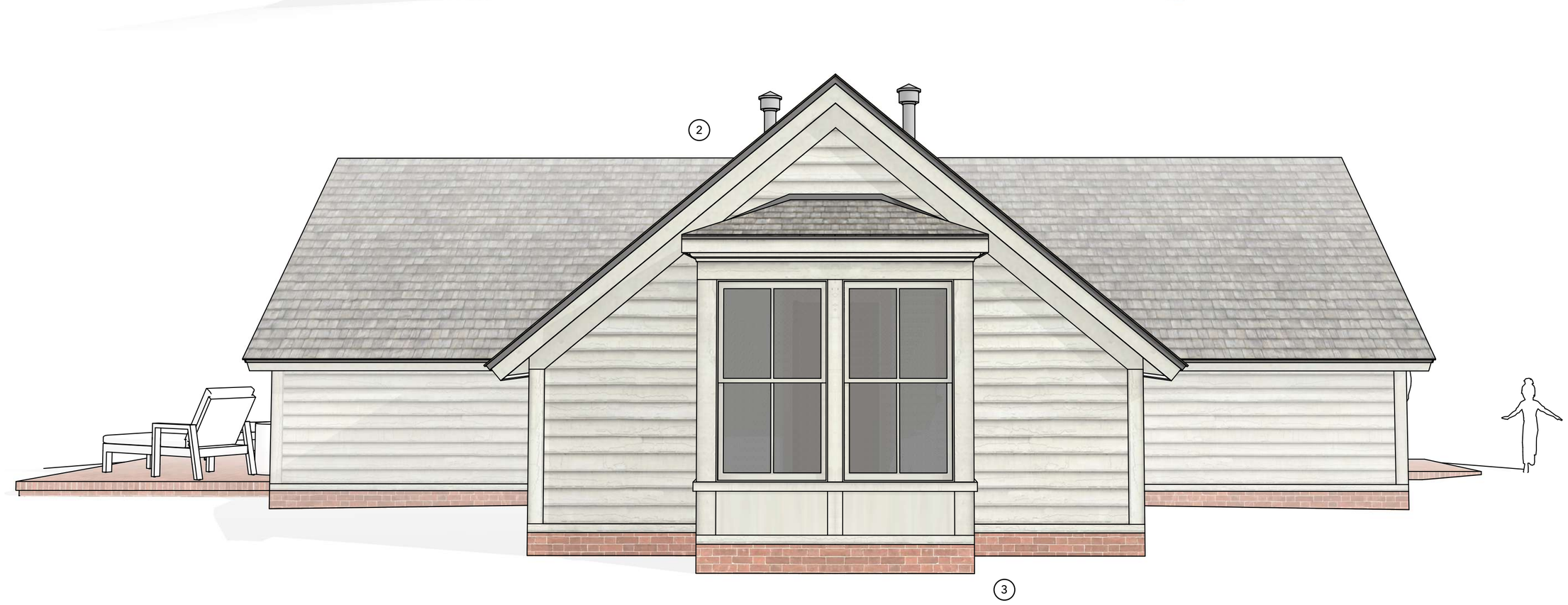
HALFSTORY HOUSE

FRONT & RIGHT SIDE

JAY OSBORNE

(3) The chimneys are centralized, which improves the drafts of the woodstoves, and minimizes the appearance of the chimneys. They can't be perfectly centered without complicating the structure. **(4)** The house is built on a slab, so it can be as close to the ground as possible. This also helps for wheelchair accessibility. The low side walls are an ideal spot for planting large shrubs, hiding the house.





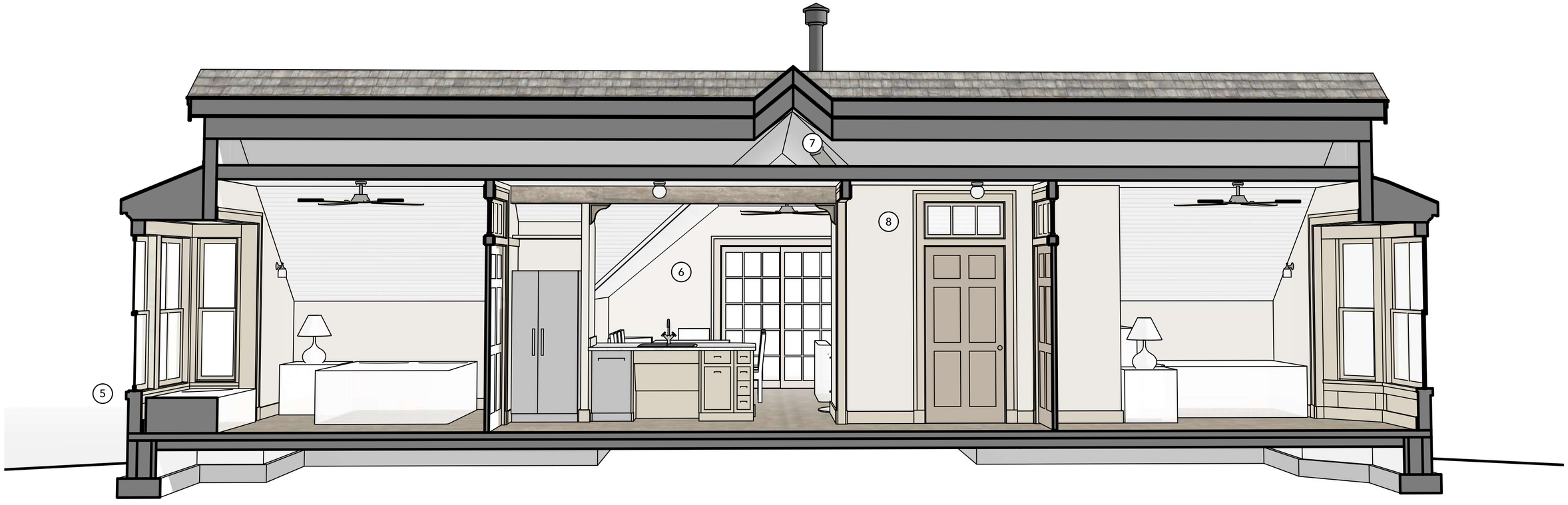
(1) A major benefit of this archetype is that the low roof eaves block less sunlight, so the house can be placed in the middle of a garden. A patio at the back of the house provides a great place to sunbathe. The large windows bring light inward and allow views outward. **(2)** The chimneys are slightly asymmetrical when seen up close, but they won't be so visible (on axis) except if viewed from a distance.

HALFSTORY HOUSE

REAR & LEFT SIDE

JAY OSBORNE

(3) The bedrooms have large bay windows. That's partly to compensate for the lack of windows on the low sides of the house. And partly to compensate for the house having no porch. Seen from the inside, through the aligned doors, these windows carry eyes outward to the landscape beyond. On the inside, these bay windows provide intimate alcoves, perfect for sitting down and reading a book.



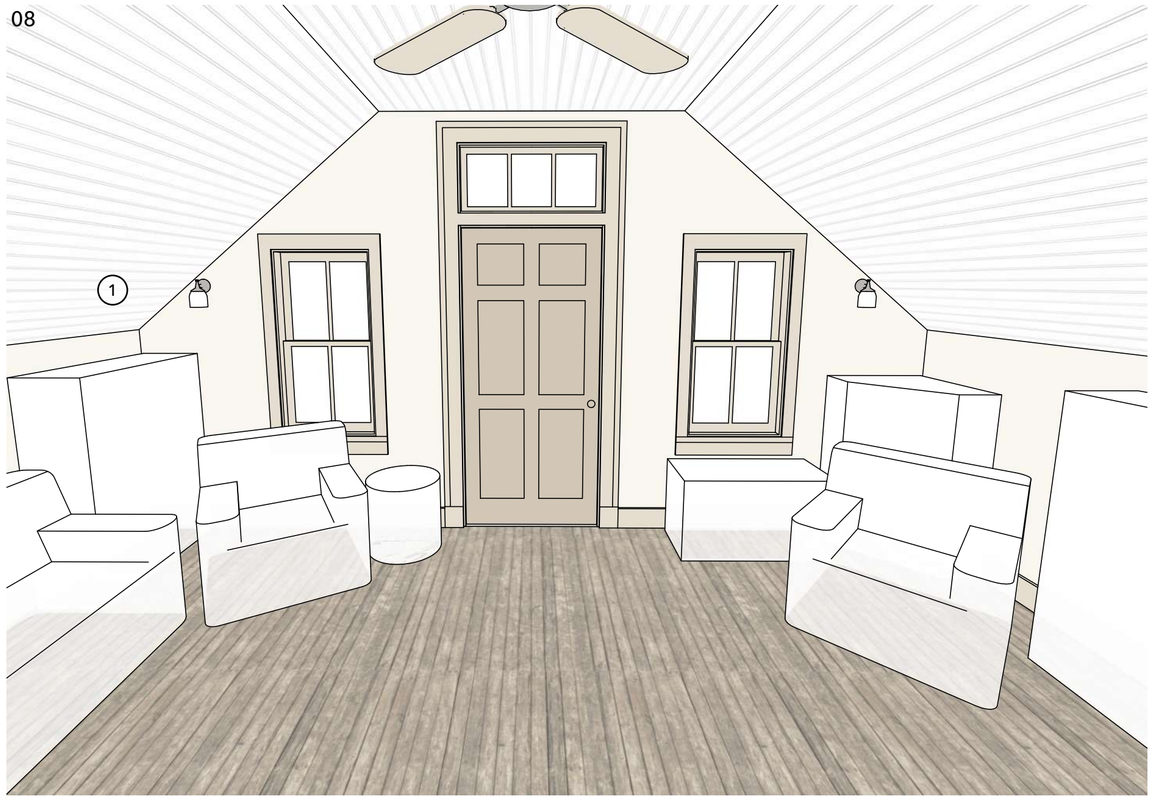
(1) All of the exterior doors have a small roof awning. Of course, this give a little shelter for anybody waiting in the rain. Longterm, it also protects homes from rot. **(2)** To improve the draft of the woodstove, the flue goes upward in the room. That also boosts the efficiency of heating. **(3)** Though structurally redundant, the kitchen beams tie the interior walls together, making the roof stronger and stiffer.

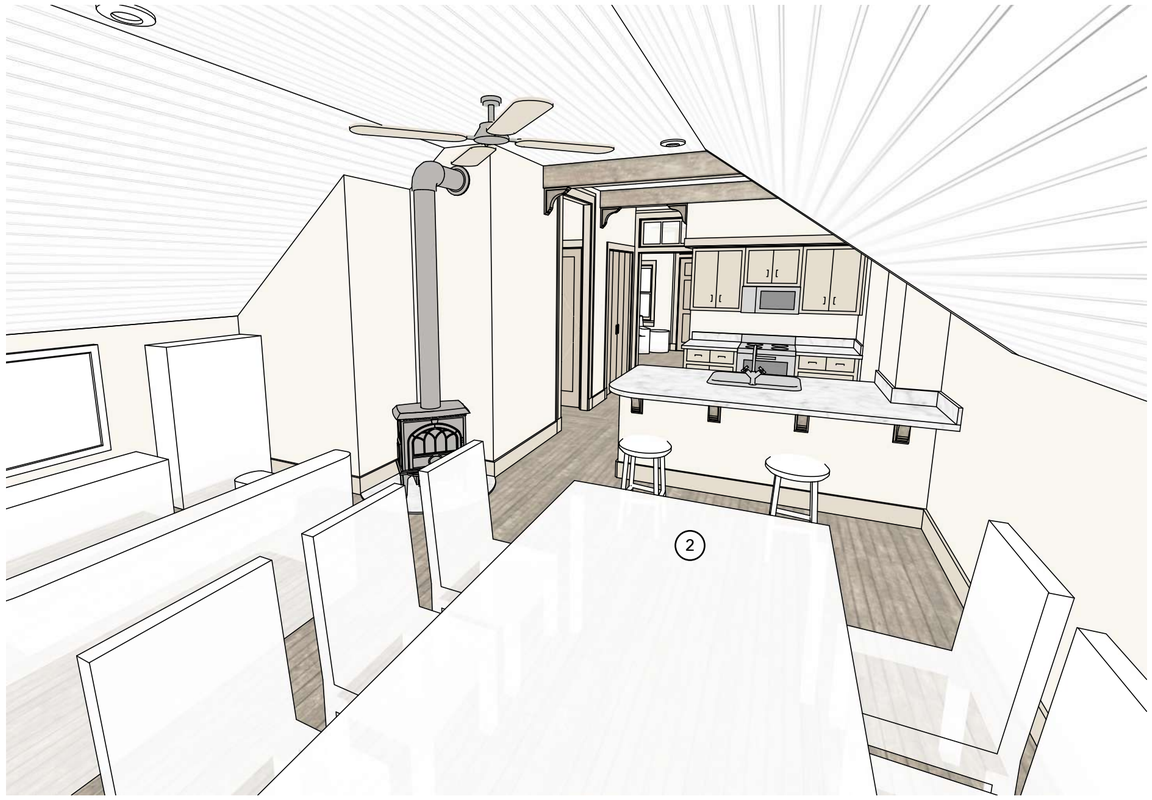
HALFSTORY HOUSE

CROSS SECTIONS

JAY OSBORNE

(4) The ceiling is high enough to avoid head bumps (if furniture is placed right). **(5)** The drop to the ground is low enough that window sills are at seating height. **(6)** The kitchen opens to the living/dining areas. **(7)** Due to the slab foundation, it's important to have this utility chase at the rooflines. **(8)** To bring daylight to the middle of the house, transom windows are needed over the main interior doors.





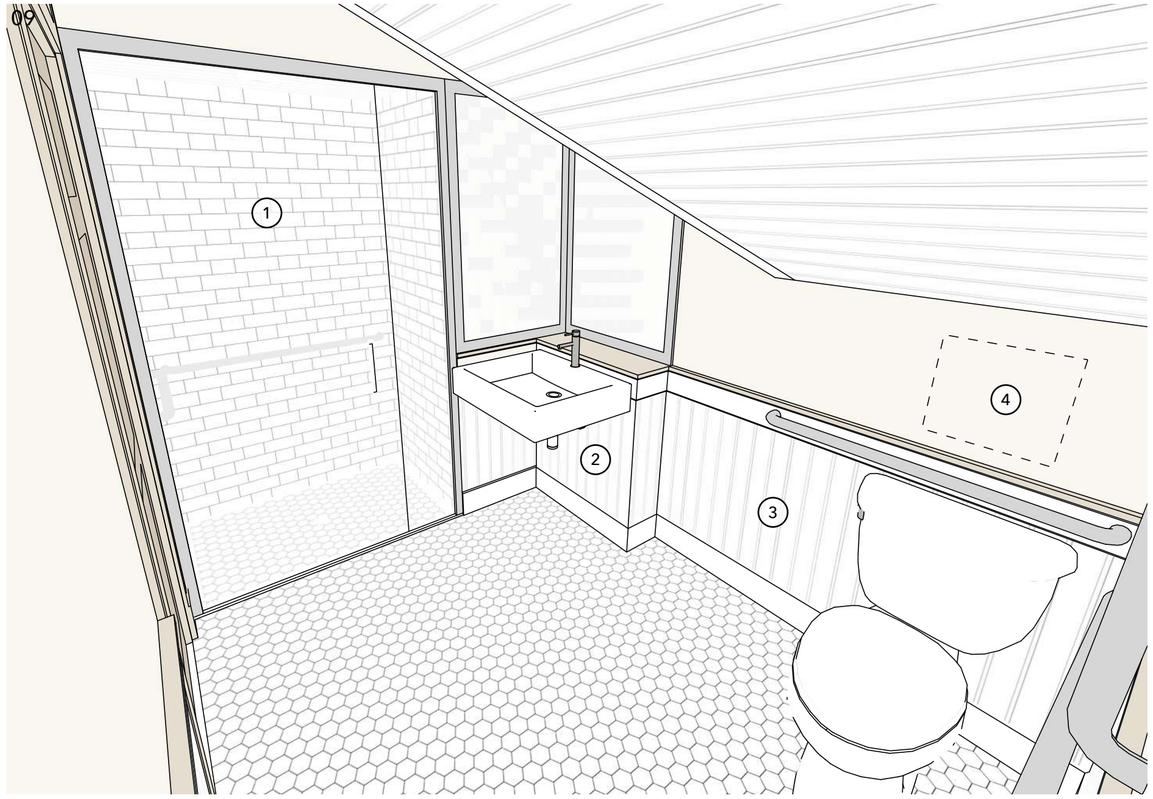
(1) Painted wood beadboard is used for the ceilings. This material is less likely to be dented over time, and is more warm to the touch than typical gypsum board. The walls here are shown with gypsum board because it's cheaper. The visual contrast between the ceiling and walls makes the rooms feel more open. **(2)** The kitchen opens to the living areas, so the house's center won't feel claustrophobic.

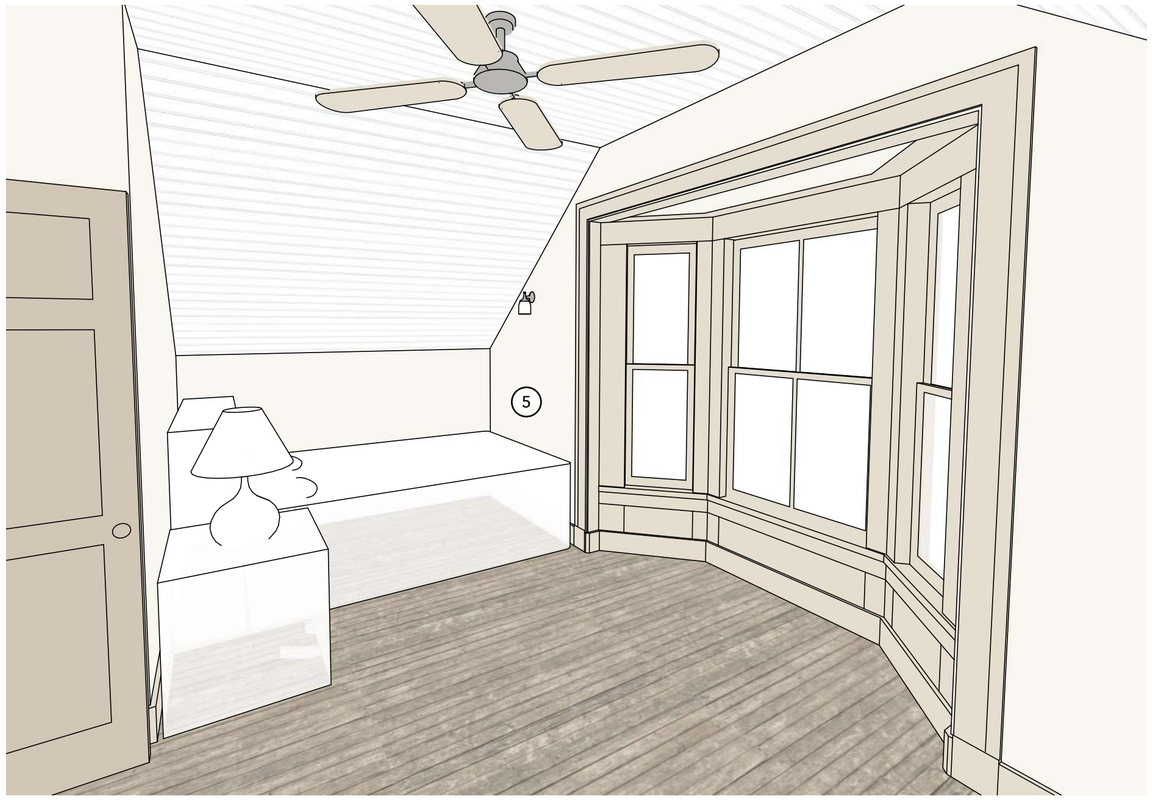
HALFSTORY HOUSE

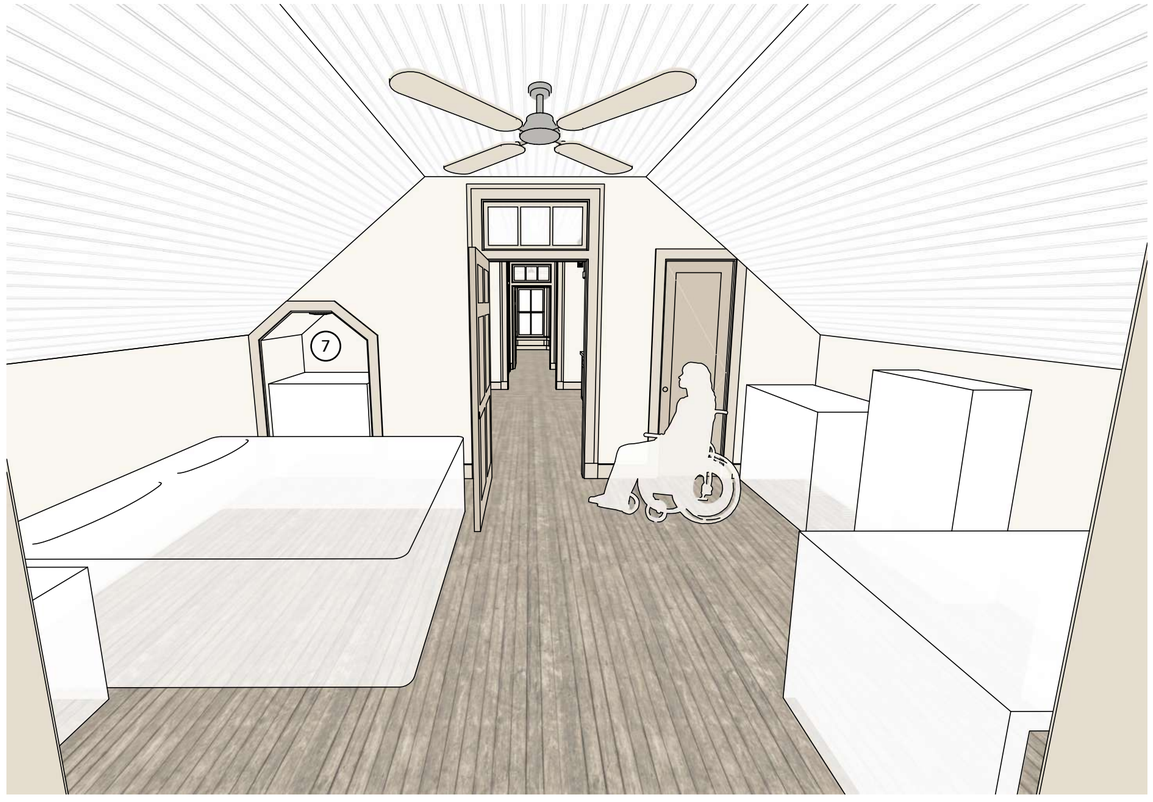
LIVING AREA VIEWS

JAY OSBORNE

(3) The floor and ceiling materials converge at the center of the house, which is visually expressed. This is one of those small details that is easy to build, and often remarked upon to visitors. **(4)** The kitchen counters and cabinets should be low enough for wheelchair users. For turning around, there's ample floor space. **(5)** Many of the walls are large enough for displaying artwork or family photos.







(1) A roll-in shower. The bathroom is large– necessary for wheelchair clearances. Not every detail (like hardware) is figured out, but enough space is given to make it work. **(2)** Ceiling heights are a major factor, and take precedence over wheelchair clearances. Building codes dictated the minimums. **(3)** If wheelchair clearances aren't a major concern, then the toilet can be partitioned off as a stall.

HALFSTORY HOUSE

PRIVATE ROOM VIEWS

JAY OSBORNE

(4) A small porthole window could be placed over the toilet. **(5)** The beds can be curtained off in an alcove, but there's not enough ceiling height for bunk beds. **(6)** An enfilade of openings lets you look across the entire house, significantly increasing the feeling of spaciousness, and allowing light and air into the middle. **(7)** A tiny niche is provided at the main bedroom. It's a place for personalization.